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ACCESSION NUMBER: 2000-001612 [01] WPIDS  
 DOC. NO. NON-CPI: N2000-001376  
 DOC. NO. CPI: C2000-000477  
 TITLE: Method of making a pipe lagged with a spiral-wound external protective envelope.  
 DERWENT CLASS: A88 H03 Q67  
 INVENTOR(S): MARCHAL, P; RIVIER, M  
 PATENT ASSIGNEE(S): (ITPI-N) ITP; (ITPI-N) ITP SA  
 COUNTRY COUNT: 25  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
FR 2777628	A1	19991022	(200001)*		20	F16L059-14	
EP 1070907	A1	20010124	(200107)#	FR		F16L059-02	<--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI							

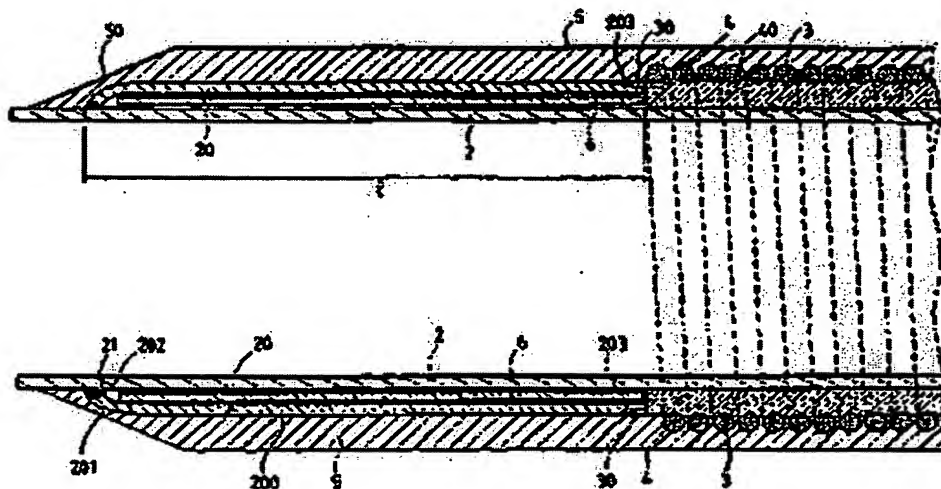
APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2777628	A1	FR 1998-4819	19980417
EP 1070907	A1	EP 1999-401824	19990720

PRIORITY APPLN. INFO: FR 1998-4819 19980417; EP 1999-401824 19990720

INT. PATENT CLASSIF.:  
 MAIN: F16L059-02; F16L059-14  
 SECONDARY: F16L011-08

GRAPHIC INFORMATION:



BASIC ABSTRACT:

FR 2777628 A UPAB: 20000105  
 NOVELTY - The pipe (1) has an external envelope (4) with an intermediate annular layer (3) of insulating material surrounding an internal tube (2) of the pipe. The method includes winding a non-elastic wire (40) around

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the insulating material in a spiral so the spirals join to form the envelope with its mechanical properties protecting the intermediate layer.

DETAILED DESCRIPTION - The insulating material of the intermediate layer is a high porosity micro porous material with open pores forming a coherent 3-dimensional structure, giving sufficient flexibility to be wound around the internal tube. The round section wire is steel with a density greater than six. The wire is wound under conditions so that the wire is non-elastic and the moment force applied is insufficient to damage the insulating layer. Winding the wire around the internal tube and insulating layer is done by rotating the tube about a first horizontal axis. The wire is supplied on a bobbin turning freely about a second horizontal axis and guides between the bobbin and the rotating tube exert a force at the tube which passes the elastic limit of the wire and pulls sufficiently little on the insulating material that it is not crushed or damaged. The moment is obtained by lengthening the vertical guide to provide a lifting arm to obtain the desired moment. The internal tube is covered by at least one layer of insulating material and the armor by a sealing layer (5) of elasto-plastic material, preferably polyolefin-based such as a polyethylene resin. The wire is partly embedded in the insulating material. The external sealing layer covers the outside of the wire spirals. The insulating material is a mixture of silica powder and ceramic reinforcement fibers, compacted in a coherent 3-dimensional structure with high porosity and open pores contained in an envelope which is not gas-tight, in the form of self-supporting bands which can be rolled onto the internal tube. The external layer also covers the connections between successive pipes, where the ends of the wires can be advantageously welded together.

USE - In particular for constructing submarine pipelines to carry petroleum products.

ADVANTAGE - Ensuring good quality insulation.

DESCRIPTION OF DRAWING(S) - Schematic section of lagged pipe.

Internal tube 2

Insulating layer 3

External armor envelope 4

Sealing layer 5

Wire 40

Dwg.1/2

FILE SEGMENT: CPI GMPI

FIELD AVAILABILITY: AB; GI

MANUAL CODES: CPI: A12-H02D1; A12-S04B; H03-B